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REMARKS

This amendment is responsive to the Office Action of March 28, 2006. Reconsideration and allowance of claims 1-6 and 8-21 are requested.

The Office Action

Claims 1-6, 8, 9, 11, 13, 16, 18, and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ratz (US 5,982,420) in view Hu (US 5,867,584).

Claims 10, 12, 14, 15, 17, 19, and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ratz in view of Hu, further in view of Blackshear (US 5,111,288).

The Prior Art

Ratz, as described at column 12, line 15 - column 13, line 7, lacks any suggestion of operator assistance during automatic tracking. Specifically, in Ratz, the operator designates the target; particularly the target is defined as the person in a superimposed rectangle on the video display. Thereafter, Ratz tracks the target automatically. If Ratz loses the target, it remains in the automatic mode. By way of an example created for this argument, if the target walks in back of a wide column but the video camera continues to track in the same direction at the same rate, the Ratz tracking system will lose the target and the rectangular box will be extinguished. However, when the target re-emerges from the other side of the column, the tracking system will again recognize the target and the automatic tracking will continue and the box will be redisplayed. Thus, even though Ratz may lose the target, it remains in the automatic tracking mode. As another example, if the target stops behind the column to tie his/her shoe, to put on a hat and sunglasses, to take off a jacket, or the like, the Ratz system will likely lose the target permanently. The Ratz system will then continue to look for the target in its automatic mode, but it may or may not ever find the target again.

When the automatic tracking system has lost the target, Ratz returns to the manual mode. When the operator finds either the same target or a different target, the operator releases the trigger and the automatic tracking system will begin following any object that is in the window at the time (column 12, lines 52-54).

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Thus, whenever the automatic tracking system 18 loses the target and the operator intervenes, the operator must **initiate a new tracking sequence**. The automatic tracking system 18 does not know whether the newly designated target is a target which it has previously tracked or a different target.

Hu is directed to an object tracking media for interactive video applications. That is, the video data in **Hu** is preexisting, such as a video game or DVD, and is not concerned with real-time image tracking.

The Claims Are Now in Condition for Allowance

Claim 1 has been amended to claim specifically the step of constructing a computer model of the selected target. Antecedent basis for this amendment is found in paragraph 36, lines 1-3.

Specifically, in subparagraph (b), claim 1 calls for constructing a computer model of the selected target and in paragraph (c) calls for tracking the target based on the computer model. After the automated video tracking system has encountered difficulty tracking the target and the target has been reacquired by manual guidance, paragraph (g) calls for the automated video tracking system to commence tracking the reacquired target based on the previously constructed computer model without constructing a new computer model.

By contrast, **Ratz** requires the autotracker 18 to initiate a new tracking sequence after operating in the manual mode (column 12, lines 52-54). **Hu** was not cited for this proposition and does not overcome this shortcoming of **Ratz**. **Hu** is directed to an object tracking media for interactive video applications. That is, the video data in **Hu** is preexisting, such as a video game or DVD, and is not concerned with real-time image tracking.

Second, claim 1 calls for providing the user with a warning when a calculated confidence value falls below a predetermined threshold value to indicate that the tracking mode has encountered a period of difficulty tracking the tracked target. This triggers a period of manual guidance. **Ratz** was not cited for this proposition and indeed does not show it. **Hu**, in Figures 3 and 4, performs a match comparison 380 which can have one of two results: "acceptable" or "unacceptable". If the match is found to be "unacceptable", a warning is displayed 390 and the process

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ends. In Figures 5 and 6, the same threshold comparison 380 is performed and the results are again either "acceptable" or "unacceptable". If "unacceptable", a first warning 591 is displayed. The system then asks if the object currently in the window on the display is "acceptable" as a replacement target at 592. The answer is either "yes" or "no". If "no", a second warning is displayed 593 and the program ends. If "yes", the new object becomes the target and replaces the old target.

Thus, Hu does not teach or suggest providing a warning when the automatic tracking mode is about to fail as set forth in paragraph e. Rather, it sets forth a warning after it has, in fact, failed. Further, Hu fails to teach or fairly suggest switching from an automated mode to a manual mode during periods of tracking and difficulty and then switching back to the automatic mode after the period of difficulty has passed. Rather, after indicating a failure, Hu ends the process until the operator reselects a target by initiating a new target tracking sequence.

Accordingly, it is submitted that **claim 1 and claims 2-6 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 8 calls for a warning means which indicates to the user that a confidence value has fallen below a predetermined value to prompt the user to enter a manual mode and manually track the selected target. After the operator has used the manual mode to reacquire the selected target, the automatic mode is recommenced without constructing a new video model. By contrast, after Ratz enters the manual mode, reactivation of the automatic tracker 18 is done by initiating a new tracking sequence (column 12, lines 52-54).

Hu does not overcome these shortcomings. Hu, in Figures 3 and 4, merely provides an indication that tracking has failed and ends the process. In Figures 5 and 6, after tracking has failed, Hu provides the user with the option of tracking the object that is currently in the display whether the same or a different object. There is no suggestion of switching to a manual mode, much less any suggestion of recommencing tracking based on the originally constructed video model. Rather, it is submitted that like Ratz, Hu would respond to accepting the object in the display by initiating a new tracking sequence. Accordingly, it is submitted that **claim 8 and claims 9-10 and 13-14 dependent therefrom** distinguish patentably and unobviously over the references of record.

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Claim 11 calls for switching to the manual mode by releasing control of the input device. By contrast, at column 12, lines 50-51, Ratz calls for releasing the trigger to start the automatic mode.

Further, claim 11 calls for switching back to the automatic mode without initiating a new tracking sequence. By contrast, Ratz, at column 12, lines 52-54, indicates that when one switches from the manual mode to the automatic mode, it follows any object that is in the window at the time, i.e., initiates a new tracking sequence. Hu was not cited for either of these points and does not overcome either of these shortcomings of Ratz. Accordingly, it is submitted that **claim 11 and claim 12 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 15 calls for the video tracking system to switch back to the automatic mode **without initiating a new tracking sequence**. By contrast, in Ratz, each time the operator manually identifies a target, whether it be an old target or a new target, the tracking sequence is reinitiated (column 12, lines 52-54). Hu does not overcome this shortcoming of Ratz. When Hu indicates that it has lost the tracked target, Hu provides the user with the option of tracking whatever object is currently in the display. There is no suggestion in Hu that this object currently in the display is treated any differently if it is a new object or a previously tracked object. Because Hu goes through the same procedure regardless whether it is a previously tracked or new object, Hu must be initiating a new tracking sequence. Accordingly, it is submitted that **claim 15 and claims 16 and 17 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 22 calls for an automatic tracking system for causing a computer model of a selected target (to be tracked) to be constructed. When a warning is issued that the confidence value is falling below a confidence value threshold, the system switches to the manual mode. After tracking the target in the manual mode, the system is switched back to the automatic mode to recommence tracking based on the previously constructed computer model. By contrast, after Ratz and Hu switch from an automatic mode to a manual mode and then back to an automatic mode, they each initiate a new tracking sequence and generate a new computer model or other basis for their automatic tracking procedure. Accordingly, it is submitted that **claim 22 and**

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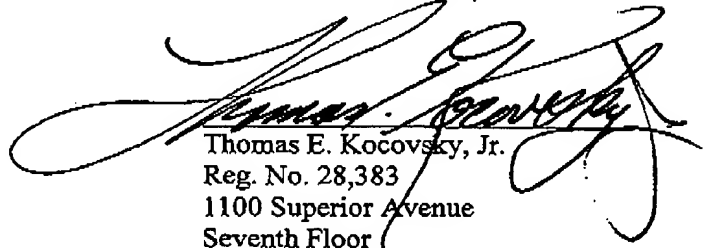
claims 18-21 dependent therefrom distinguish patentably and unobviously over the references of record.

CONCLUSION

For the reasons set forth above, it is submitted that claims 1-6 and 8-22 (all claims) distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

Respectfully submitted,

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